

The background image shows a historic building with a large, ornate covered walkway. The walkway has a dark wooden roof and decorative iron brackets. Below the walkway, a row of bicycles and two motorbikes are parked on a paved sidewalk. The building's facade is made of light-colored stone blocks. In the distance, a few people are visible near a display stand.

# *City of Baltimore* *Bicycle Master Plan*

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**Draft Plan Presentation  
Public Meeting**

**January 18, 2006**

*Bike Parking at Baltimore's Penn Station*

# Original Goals

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- Review and integrate previous bike planning efforts
- Identify early actions for bicycle facility installation
- Implement simple projects (striping) right away.
- Provide a Master Plan that addresses the four E's
  - Engineering
  - Encouragement
  - Education
  - Enforcement
  - As well as maintenance, funding and implementation

# Tonight's Presentation (Part 1)

- Mission and Goals
- Background Information
- Planning Process
  - Route Selection Criteria
  - Associated Studies and Tasks

# Tonight's Presentation (Part 2)

- Proposed Bicycle Network
- Network Components & Bicycle Facility Types
- Goals, Objectives & Recommendations
- Next Steps



# Mission

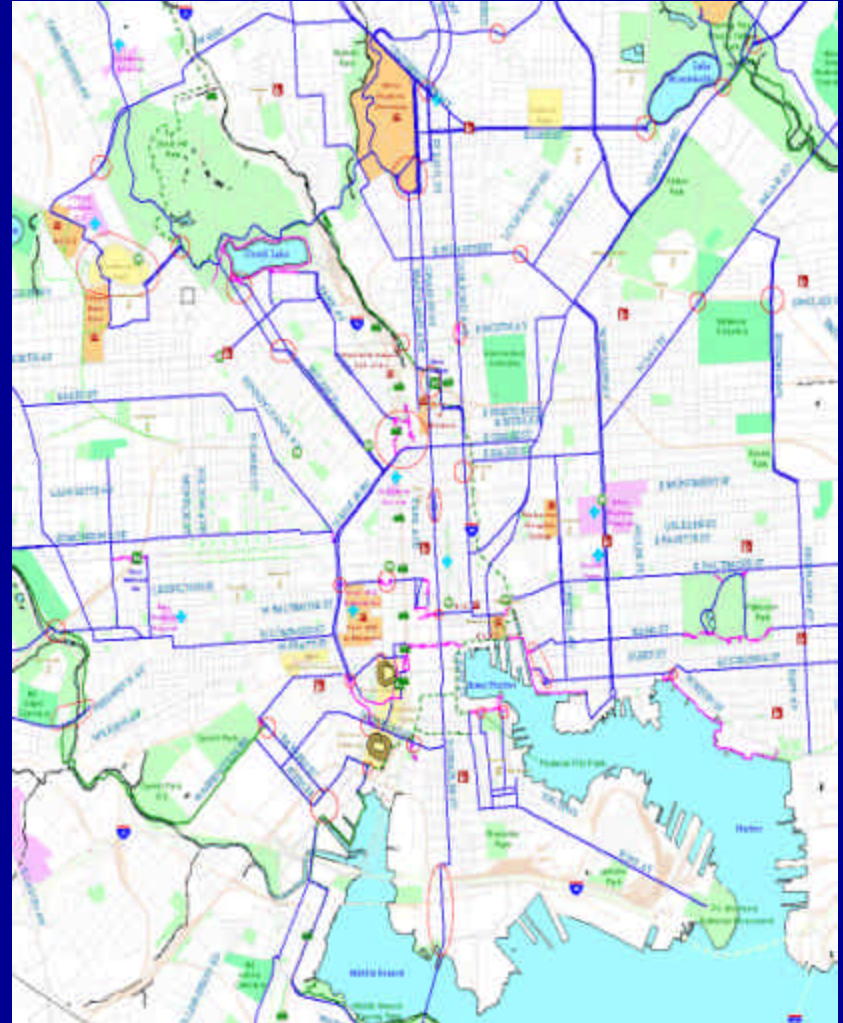


*It is the intention of the City of Baltimore to promote and facilitate bicycling as a safe, convenient and comfortable form of transportation and recreation*

# Goal 1 : Create a Network of Facilities

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Develop a comprehensive network of facilities for bicycles.





## Goal 2: Safety and Use

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Implement safety, education and encouragement programs to increase bicycle usage.



## Goal 3: Policies and Programs

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Institute policies that support implementation of Bike Master Plan goals and objectives with community support and input.





## Background--History

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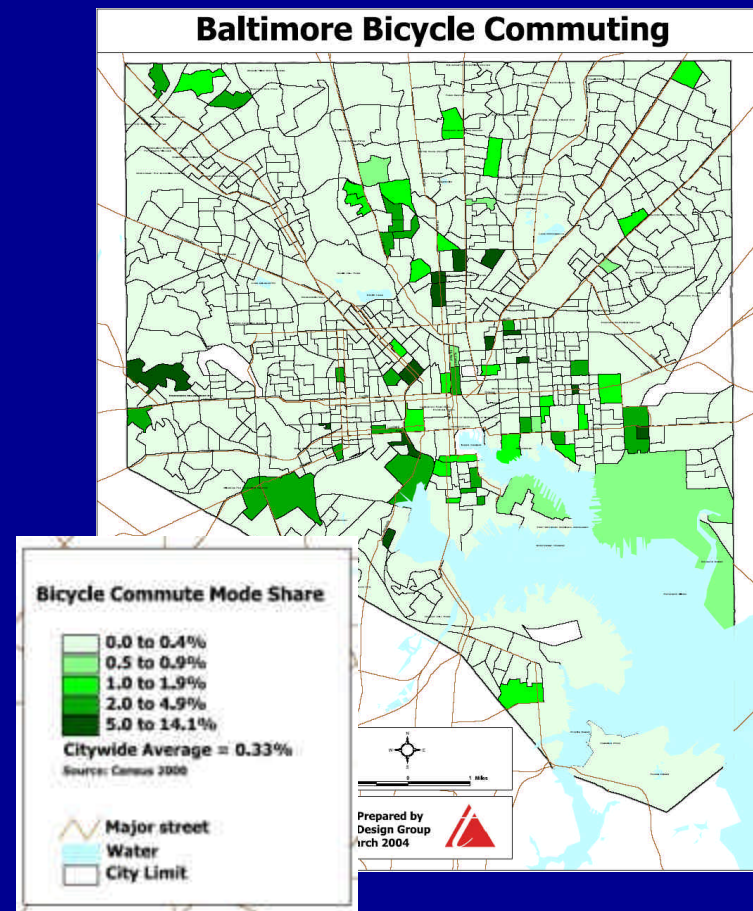
In the early 1900's *Mrs. William H. Row* reflected on her husband's life of bicycling through the turn of the century,

“...back in the ‘90’s Baltimore was bike crazy. There were hundreds of “wheels” on the streets. There were a score of cycling clubs and every Sunday there were outings and races and endurance tests.”

# Background –Bicycle Commuting

**Table 1. Bicycle Commuting in Selected U.S. Cities From 2000 Census<sup>[1]</sup>**

<u>City</u>	<u>Bicycle Mode Share</u>
Madison, WI	3.19%
San Francisco, CA	1.98%
Seattle, WA	1.88%
Washington, DC	1.16%
Philadelphia, PA	0.86%
New York, NY	0.47%
St. Louis, MO	0.35%
<b>Baltimore, MD</b>	<b>0.33%</b>
Cincinnati, OH	0.19%
Detroit, MI	0.16%
Nationwide Average (includes suburban and rural areas)	0.38%



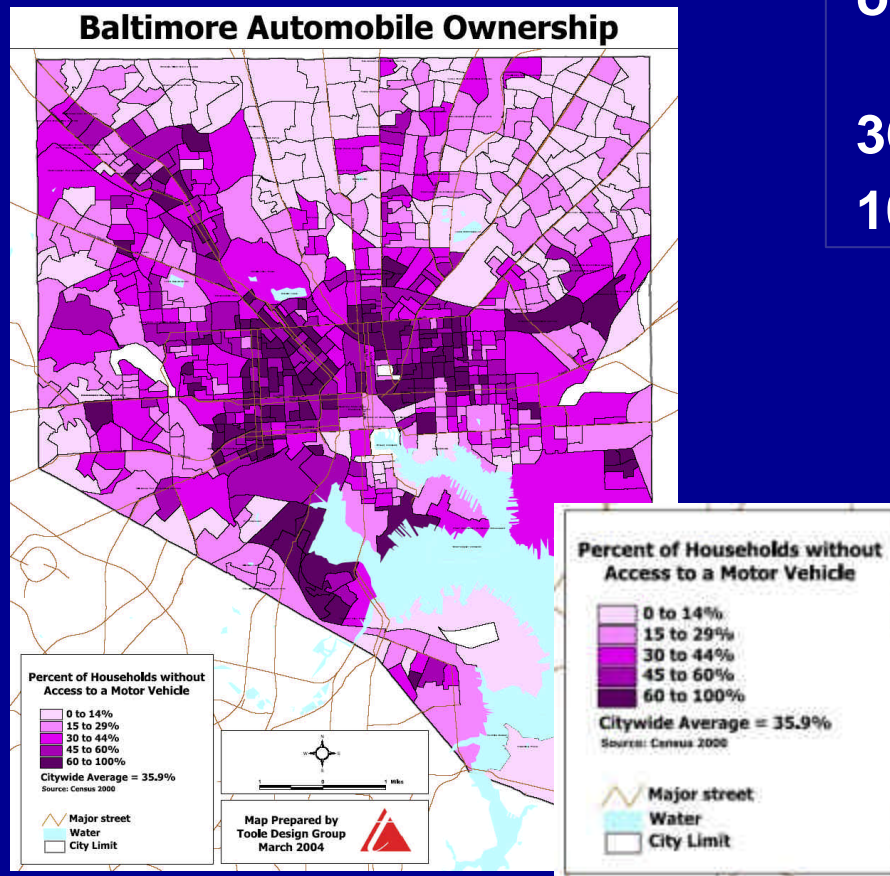
# Background—Car Ownership

Baltimore households that do not own an automobile:

36% Baltimore

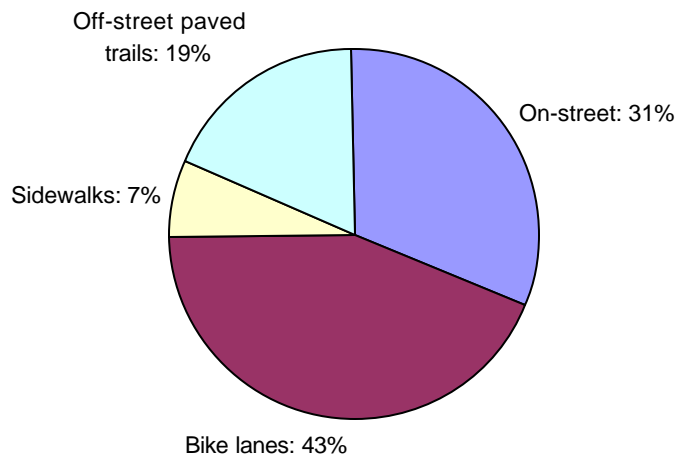
10% United States

Approximately 50% of Baltimore residents live in a household where they do not have access to a motor vehicle.



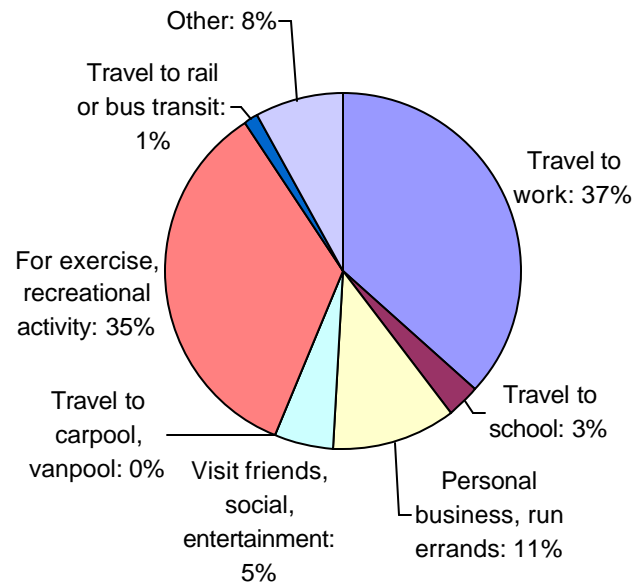
# Background--Survey

**Preferred Bicycle Facility**



Master Plan Bicycle  
Survey, 2005

**Bicycle Trip Purpose**





# Planning Process – Route Selection

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1. Reviewed Previous Plans
2. Kick-off Public Meeting
3. In-Field Review (by car & bike)
4. Street Measurements from City GIS
5. Focus Areas—  
Downtown, Areas Around the Core



# Planning Process – Route Selection

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## Network Objectives & Selection Criteria

- City-wide
- Try to avoid high speed arterials w/ heavy traffic
- Find Opportunities for accommodations
- Overcome barriers
- Continuity, directness, convenience, linkage, destinations

(See handout)

# Planning Process – Route Selection

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Multiple Reviews by:

- Project Staff,
- Technical Advisory Committee and
- Mayor's Bicycle Advisory Committee

# Planning Process – Special Studies

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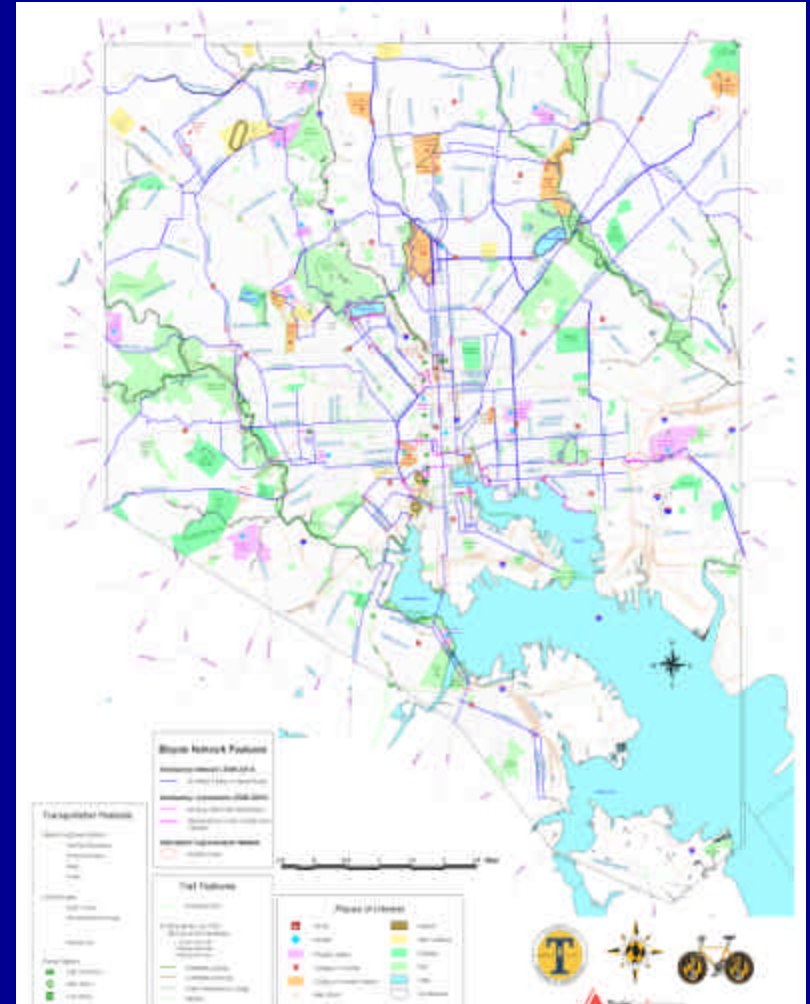
1. Inner Harbor Trail section
2. Roland Avenue Bike Lane Plans
3. Jones Falls Trail-Clipper Mill section
4. Edmonson Avenue Bridge over Gwynns Falls
5. Harford Avenue Bridge over Herring Run
6. Potee Bridge and approach roads
7. Hopkins & Charles Plaza Connection
8. Water and Redwood Streets Cross-town Route
9. Veterans Memorial Bridge Accommodations (Hanover St.)
10. Jones Falls Trail/Inner Harbor East Trail Connection.
11. Charles Street



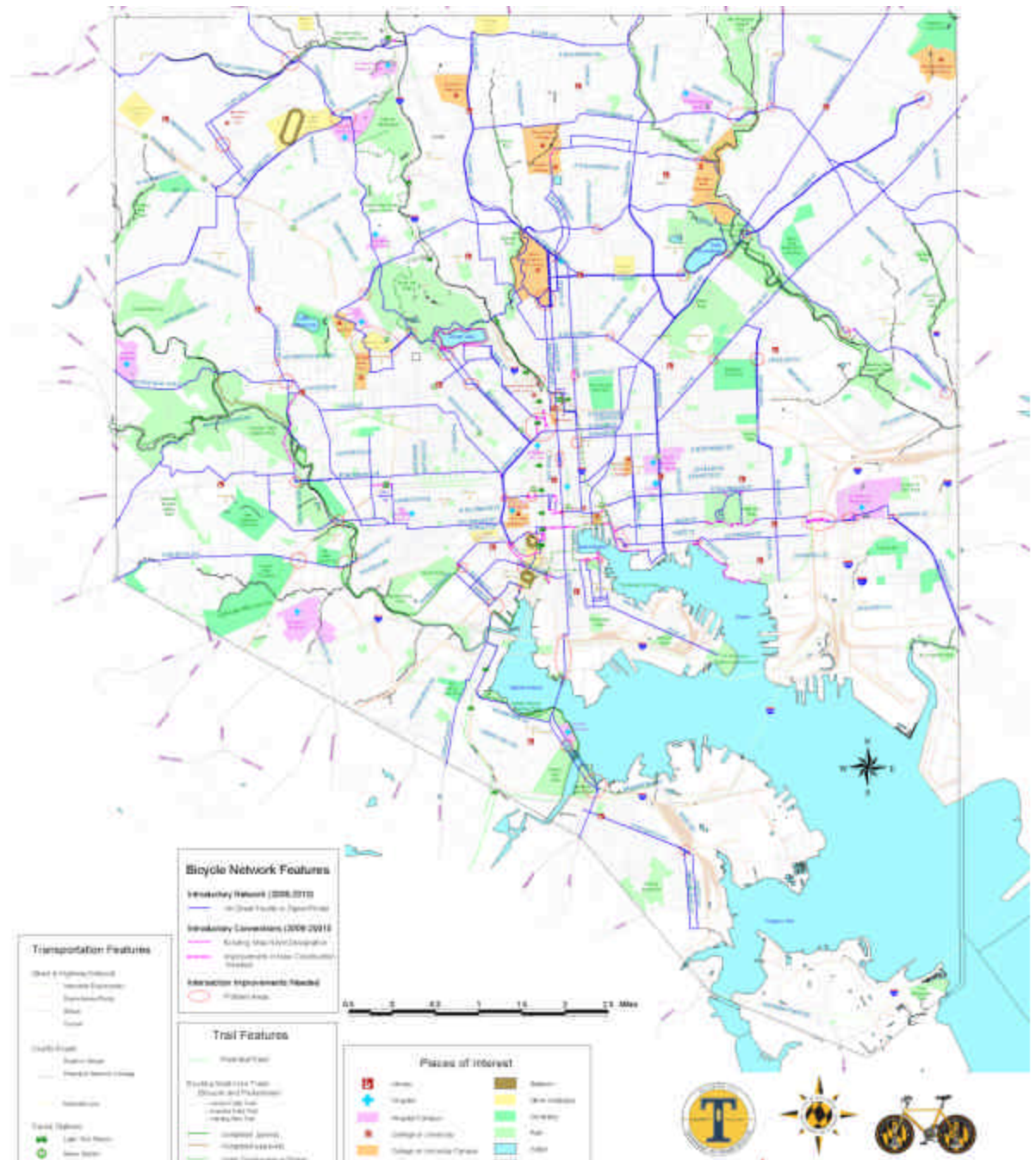
# Questions About the Planning Process

# Proposed Bicycle Network

- **Proposed Bicycle Network**
  - 415 Miles
- **Preliminary Facility Types**
  - 150 Miles
- **Prioritization in Five Tiers**



# 158 Miles



# Proposed Bicycle Network

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## Introductory Network –Potential Facilities

- New Bike Lanes –32 Miles
- Shared Lane Marking (sharrow) –35 Miles
- Shared Roadways –50 miles
- Undecided – 33 miles



# Proposed Bicycle Network

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## Network Components

- **On-Street Facilities and Signed Routes**
- **Multi-Use Paths** (Bicycle and Pedestrian)
- **Connectors** (Paths, Sidewalk Segments, Overpasses, Etc.)
- **Difficult Intersections**
- **Potential Trails**

# Proposed Bicycle Network

## Select Facility Types and Treatments

### FIGURE 1. GLOSSARY OF COMMON BICYCLE FACILITIES

Different types of facilities will be needed to provide safe and comfortable accommodation for bicycles in the Baltimore City bicycle network. Following is a short list of common bicycle facility types. Specific design guidelines for these and other bicycle facilities are provided in a variety of documents published by AASHTO, SHRP, various states and cities and in a Toolkit developed as a part of this Plan (see bibliography in Appendix C).

#### Bike Lane

A bike lane is a portion of the roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes are always located on both sides of the road (except one way streets), and carry bicyclists in the same direction as adjacent motor vehicle traffic. The minimum width for a bicycle lane is 5 feet.



#### Shared Roadway Pavement Marking "Sharrow"

Motor vehicle/bicycle sharing of the travel space can be emphasized by using special shared roadway pavement markings or "Sharrows." Sharrows can be helpful on multi-lane streets where there is insufficient space to add bicycle lanes and traffic volumes and/or motor vehicle speeds are at medium levels. In some cases they may be used on two-lane roadways as well. The Sharrow marking also assists with wayfinding and can be used in conjunction with signs to delineate specific bicycle routes.



#### Shared Roadway

Shared roadways are streets and roads where bicyclists can be served by sharing the travel lanes with motor vehicles. Usually, these are streets with low traffic volumes and/or low motor vehicle speeds, which do not need special bicycle accommodations in order to be bicycle-friendly. Shared roadways can also include streets with wide outside lanes (12 to 14 feet). Increasing the outside lane width increases comfort for bicyclists.



#### Signed Route

A signed route is a continuous set of streets and roads that have been signed to assist bicyclists with wayfinding and/or direct them to particular streets, which generally have better conditions for bicycling. Signed Bike Routes will include signage that provides the bicyclist with frequent distance and destination information. This type of facility may also include bike lanes, Sharrow pavement symbols and other bicycle related traffic safety signs to intended to improve the safety of bicycle operations on the route.



# Proposed Bicycle Network

## Select Facility Types and Treatments

### GLOSSARY OF COMMON BICYCLE FACILITIES (CONTINUED)

#### Shared-Use Pathway (Multi-Use Trail)

Shared-use pathways provide a high quality walking and bicycling experience in an environment that provides separation from traffic. Shared-use paths should be a minimum of ten-feet wide and paved. Their width may be reduced to eight feet if there are physical or right-of-way constraints. These types of paths can be constructed within a roadway corridor, in their own corridor (such as a greenway trail or rail-trail), or be a combination of both. On high-speed boulevards, there may be a need for shared-use paths in addition to bike lanes. Shared-use paths should not be used to preclude on-road bicycling but rather to supplement a system of on-road bicycle facilities for less experienced cyclists.



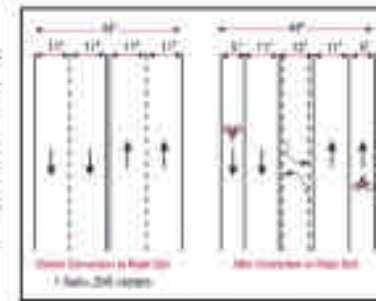
#### Bike-Friendly Traffic Calming

Slowing motor vehicle speeds and limiting motor vehicle access helps improve the on-street bicycling environment. Entry restrictions and narrowing of street widths, while maintaining bicycle access are ways that neighborhood and collector streets can be improved to calm and reduce auto traffic. Bike lanes and shoulders can also calm traffic when outside edge-lines are used to narrow the motor vehicle lanes.



#### Lane Reduction (Road Diet)

A road diet is the conversion of a four-lane roadway into a two-lane road with bicycle lanes. The new street configuration includes a center turn lane to accommodate left-turn movements without holding up through traffic. Baltimore will have a few key opportunities where there is excess lane capacity that can be recycled. A regular travel lane can also be converted to bike lane on one-way streets that are multi-lane, low volume streets. The extra space can be used for a greater buffer between curbside parking and the travelway; a center turn lane is not required.



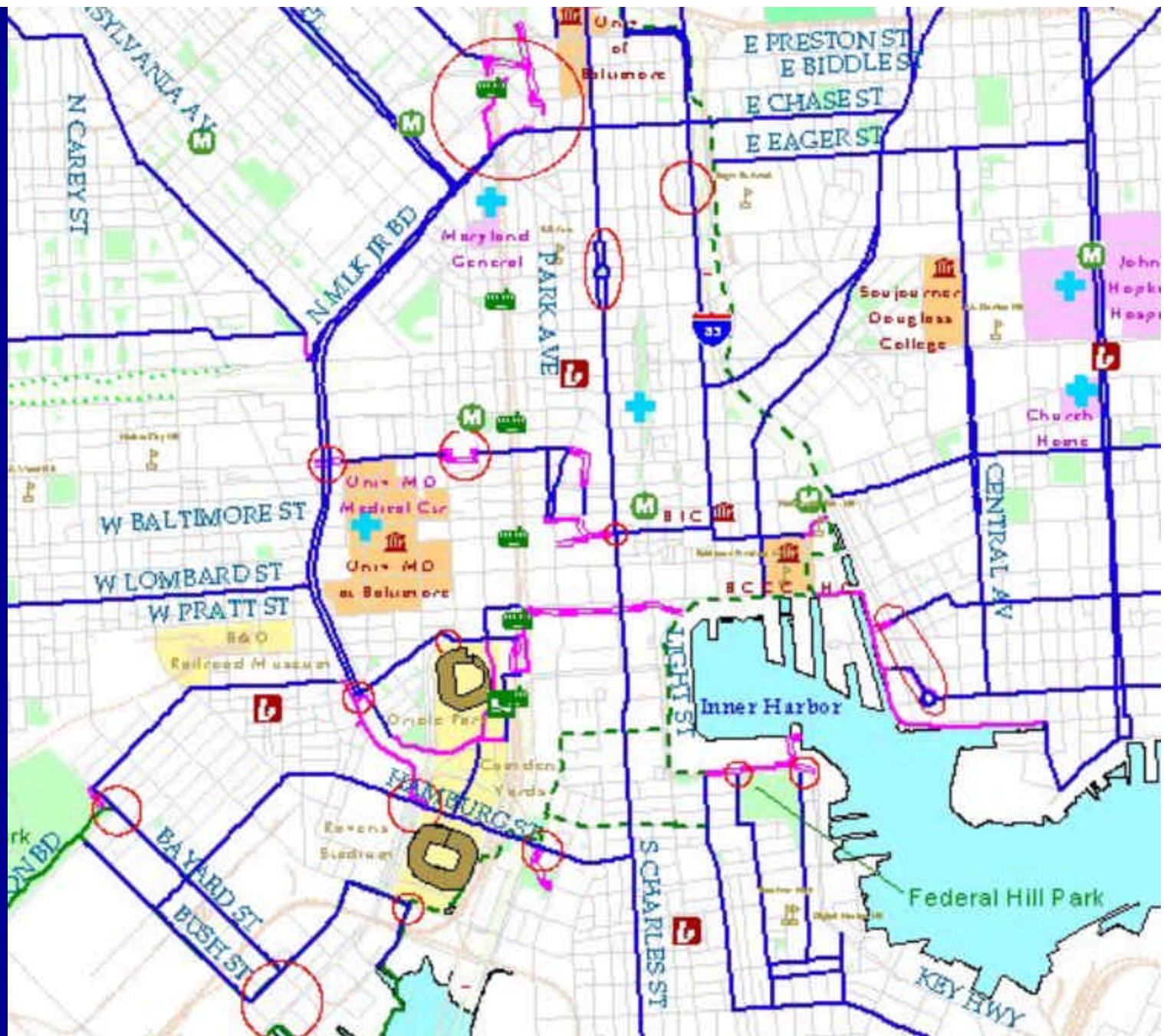
#### Bike Box at Intersection

Bike boxes are installed to allow bicyclists to move in front of cars waiting at an intersection to increase their visibility and reduce conflicts with turning vehicles. They are typically used at intersections where cyclists need to turn left and/or many vehicles turn right. During a red signal phase, bicyclists are able to better position themselves for a left turn by moving left across the bike box.





# Introductory Bicycle Network -- Downtown





# Break in Part 2

## Discuss the Network

# Goals, Objectives & Recommendations

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- Goal 1: Develop a comprehensive network of facilities for bicycles.
- Goal 2: Implement safety, education and encouragement programs to increase bicycle usage.
- Goal 3: Institute policies that support implementation of Bike Master Plan goals and objectives with community support and input.

# Create a Network of Facilities

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- Objective 1: Make bicycling safe and inviting on the streets of Baltimore.
- Objective 2: Increase the availability of bicycle parking and support facilities at destinations across the city.
- Objective 3: Fully integrate bicycling with all public transit facilities and services.



# Safety and Encouragement Programs

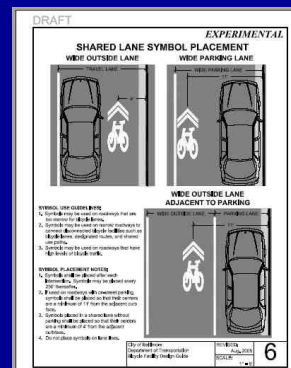
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- Objective 1: Improve enforcement of traffic laws related to bicycling.
- Objective 2: Educate the public (motorists, bicyclist, and pedestrians) about bicycle and vehicle operation in urban traffic conditions.
- Objective 3: Encourage increased bicycling by promoting health, recreation, transportation, and tourist opportunities.



# Institute New Policies and Programs

- Objective 1: Create structure to implement the Bike Plan goals and objectives.
- Objective 2: Institute new policies and procedures in the Departments of Transportation and Planning to support Bike Master Plan goals.
- Objective 3: Update street and trail repair and maintenance practices to ensure bicyclists safety and comfort.





# Implementation / Next Steps

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New Pavement On Middle  
Branch Waterfront Trail





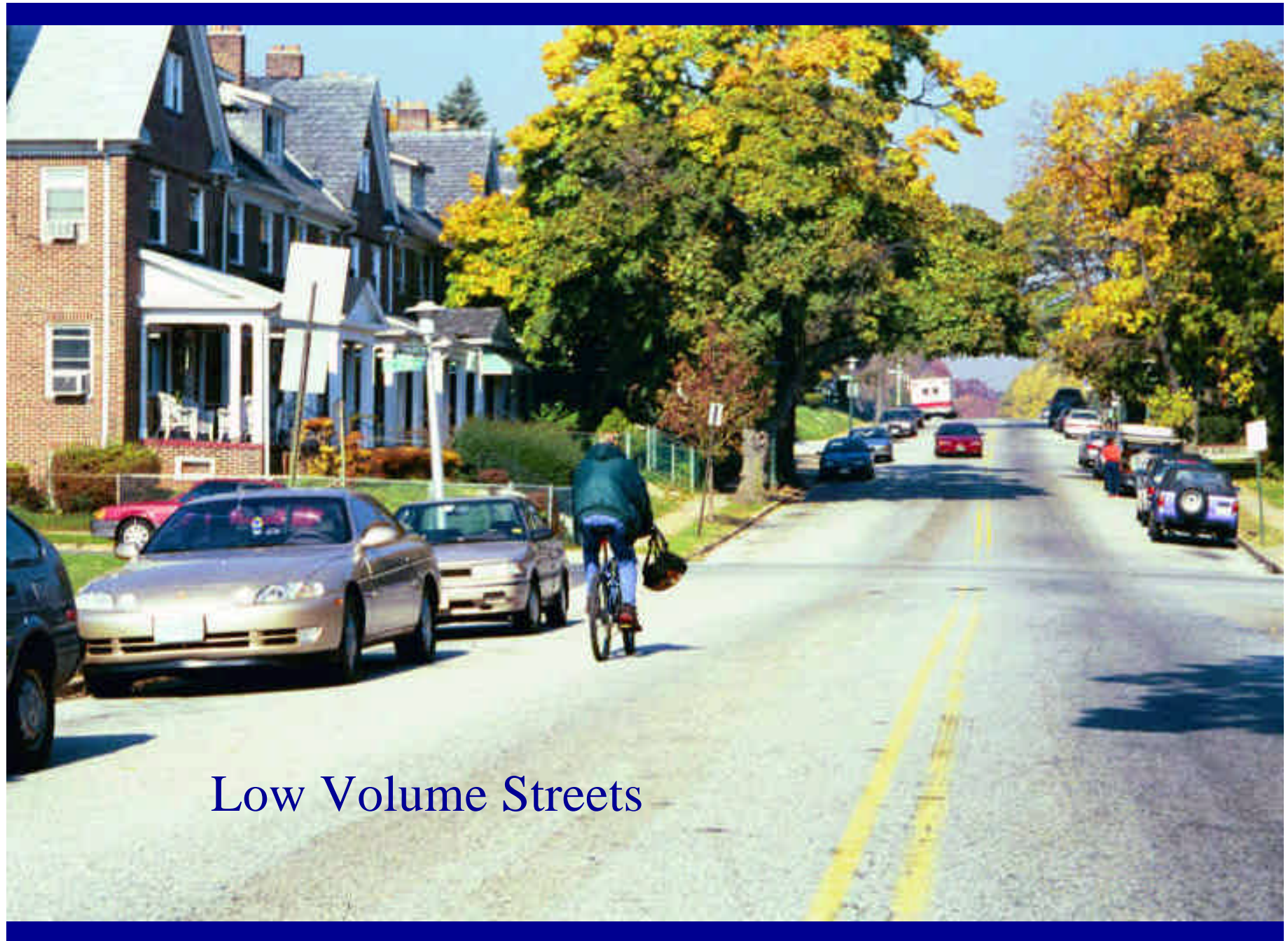
Bike Lanes on Bush & Bayard  
For Gwynns Falls Trail





Bike Parking at  
Inner Harbor





Low Volume Streets



# System Maintenance







Heavy Traffic Volumes



Lack of Bike Parking

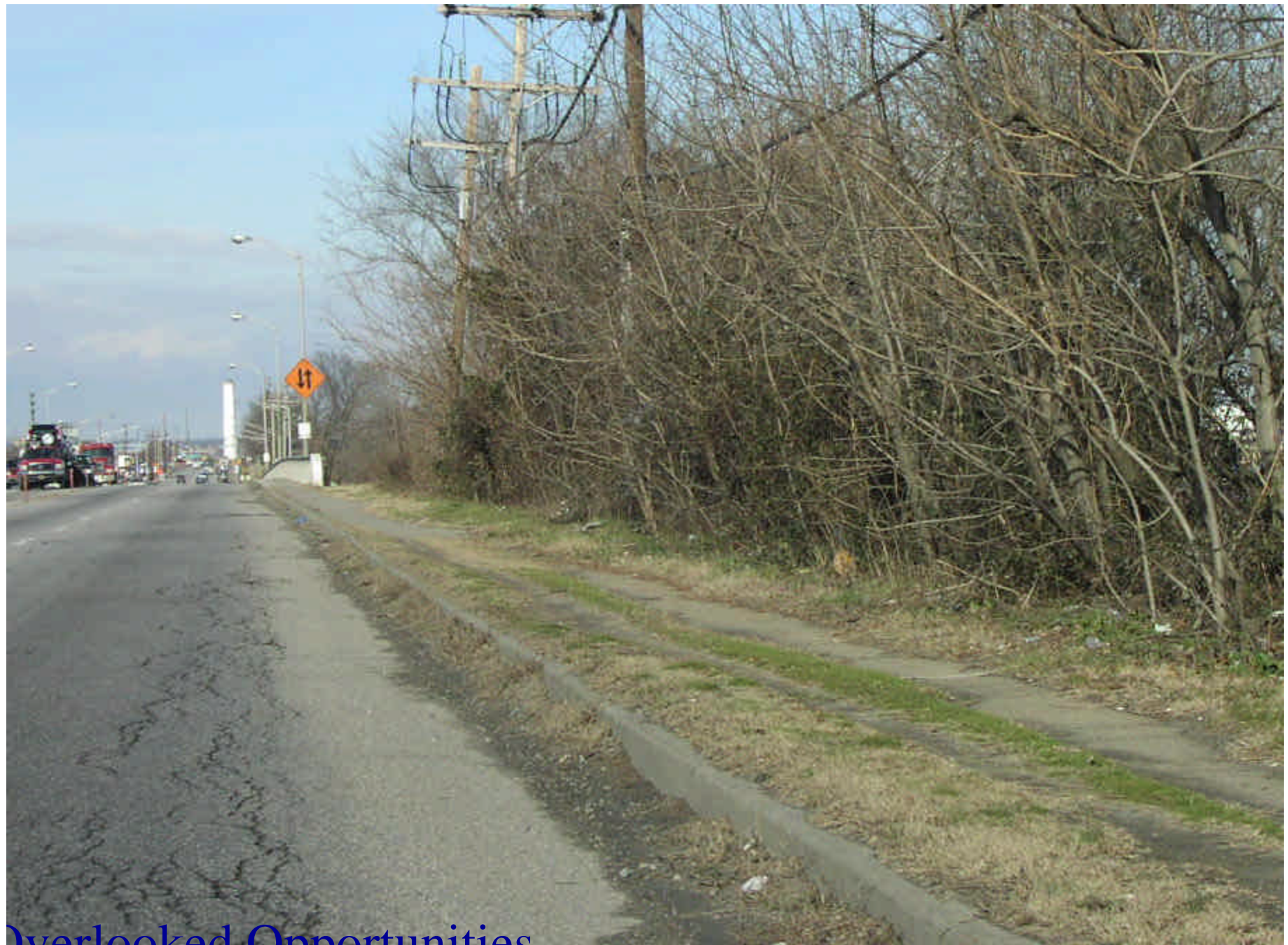






Drainage Grates





Overlooked Opportunities









Shared Use Path



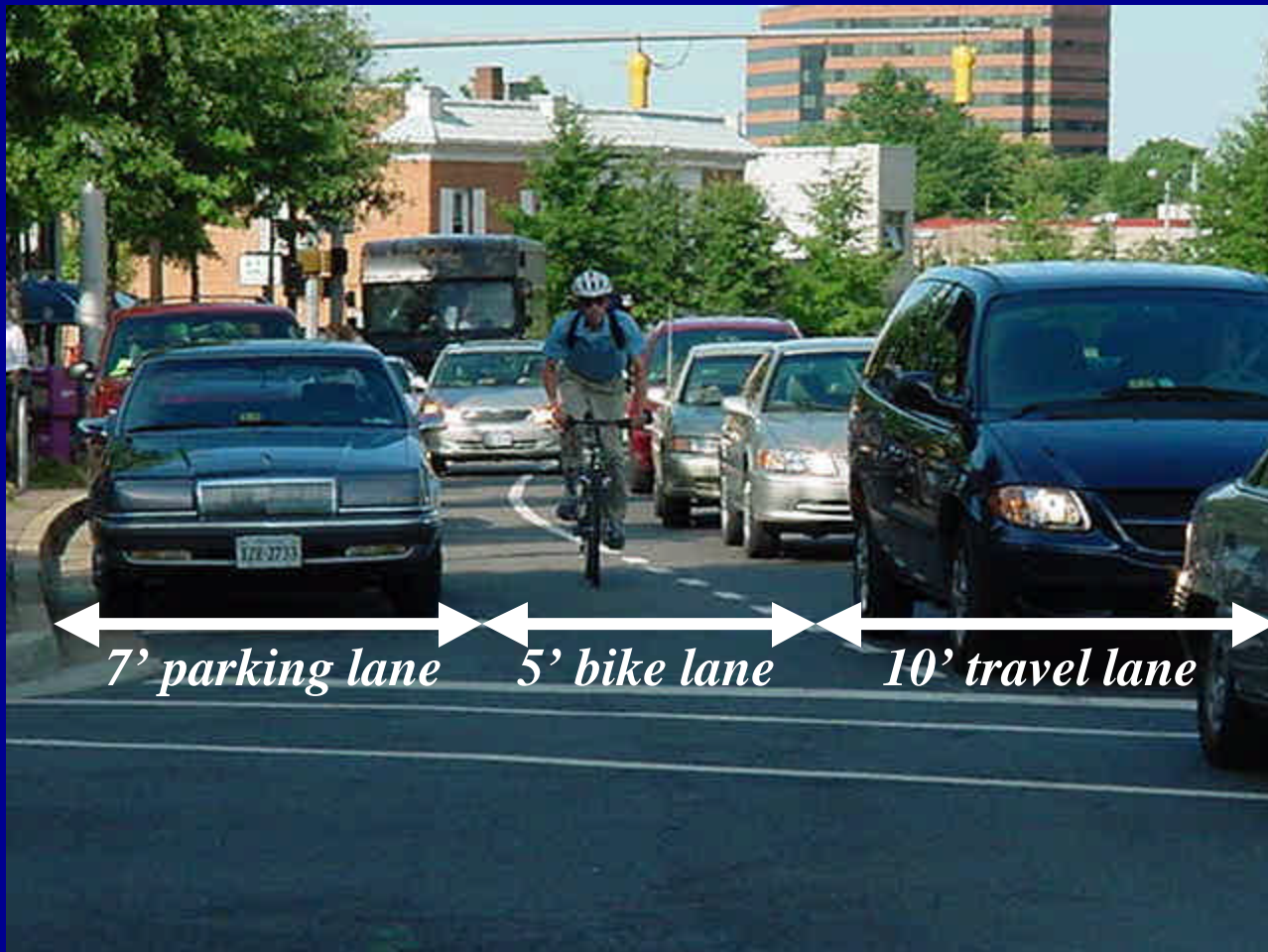


Waterfront Promenade





## Parking Practices







Likely, room for Bike Lanes on  
Fort Street